



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION IV  
1600 E. LAMAR BLVD.  
ARLINGTON, TX 76011-4511

August 14, 2015

Mr. Dennis Koehl  
President and Chief Executive Officer  
STP Nuclear Operating Company  
P.O. Box 289  
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION –  
NRC INTEGRATED INSPECTION REPORT 05000498/2015002  
AND 05000499/2015002

Dear Mr. Koehl:

On July 4, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2, facility. On July 16, 2015, the NRC inspectors discussed the results of this inspection with Mr. L. Peter, General Manager of Projects, and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. Both of these findings involved violations of NRC requirements.

Further, inspectors documented a licensee-identified violation which was determined to be of very low safety significance in this report. The NRC is treating this violation as non-cited violation (NCV) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the South Texas Project Electric Generating Station, Units 1 and 2, facility.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC resident inspector at the South Texas Project Electric Generating Station, Units 1 and 2, facility.

D. Koehl

- 2 -

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Nick Taylor, Branch Chief  
Project Branch B  
Division of Reactor Projects

Docket Nos.: 50-498 and 50-499  
License Nos.: NPF-76 and NPF-80

Enclosure: Inspection Report 05000498/2015002  
and 05000499/2015002

w/Attachment 1: Supplemental Information  
w/Attachment 2: Document Request for  
Occupational Radiation Safety Inspection  
w/Attachment 3: Document Request for  
Inservice Inspection

cc w/ encl: Electronic Distribution

D. Koehl

-2-

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Nick Taylor, Branch Chief  
Project Branch B  
Division of Reactor Projects

Docket Nos.: 50-498 and 50-499  
License Nos.: NPF-76 and NPF-80

Enclosure: Inspection Report 05000498/2015002  
and 05000499/2015002

w/Attachment 1: Supplemental Information  
w/Attachment 2: Document Request for  
Occupational Radiation Safety Inspection  
w/Attachment 3: Document Request for  
Inservice Inspection

DISTRIBUTION: See next page

ADAMS ACCESSION NUMBER: ML15230A068

■ SUNSI Review By: NHT		ADAMS ■ Yes □ No		■ Publicly Available □ Non-Publicly Available		■ Non-Sensitive □ Sensitive
OFFICE	SRI/DRP	RI:DRP	TL/DRS/TSS	C:DRS/EB1	C:DRS/EB2	C:DRS/OB
NAME	ASanchez	NHernandez	ERuesch	TFarnholtz	GWerner	VGaddy
SIGNATURE	/RA/T	/RA/T	/RA/	/RA/	/RA/	/RA/
DATE	8/14/15	8/12/15	8/12/15	8/10/15	8/10/15	8/10/15
OFFICE	C:DRS/PSB1	C:DRS/PSB2	C:DRP/B			
NAME	MHaire	HGepford	NTaylor			
SIGNATURE	/RA/	/RA/	/RA/			
DATE	8/12/15	8/12/15	8/14/15			

**OFFICIAL RECORD COPY**

Letter to Dennis Koehl from Nick Taylor dated August 14, 2015

SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION – NRC  
INTEGRATED INSPECTION REPORT 05000498/2015002  
AND 05000499/2015002

DISTRIBUTION:

Regional Administrator (Marc.Dapas@nrc.gov)  
Deputy Regional Administrator (Kriss.Kennedy@nrc.gov)  
DRP Director (Troy.Pruett@nrc.gov)  
DRP Deputy Director (Ryan.Lantz@nrc.gov)  
DRS Director (Anton.Vegel@nrc.gov)  
DRS Deputy Director (Jeff.Clark@nrc.gov)  
Senior Resident Inspector (Alfred.Sanchez@nrc.gov)  
Resident Inspector (Paul.Nizov@nrc.gov)  
Branch Chief, DRP/B (Nick.Taylor@nrc.gov)  
Senior Project Engineer, DRP/B (David.Proulx@nrc.gov)  
Project Engineer, DRP/B (Shawn.Money@nrc.gov)  
Project Engineer, DRP/B (Steven.Janicki@nrc.gov)  
STP Administrative Assistant (Lynn.Wright@nrc.gov)  
Public Affairs Officer (Victor.Dricks@nrc.gov)  
Public Affairs Officer (Lara.Uselding@nrc.gov)  
Project Manager (Lisa.Regner@nrc.gov)  
Acting Team Leader, DRS/TSS (Eric.Ruesch@nrc.gov)  
RITS Coordinator (Marisa.Herrera@nrc.gov)  
ACES (R4Enforcement.Resource@nrc.gov)  
Regional Counsel (Karla.Fuller@nrc.gov)  
Technical Support Assistant (Loretta.Williams@nrc.gov)  
Congressional Affairs Officer (Jenny.Weil@nrc.gov)  
RIV Congressional Affairs Officer (Angel.Moreno@nrc.gov)  
RIV/ETA: OEDO (Cindy.Rosales-Cooper@nrc.gov)ROPreports  
RO Reports

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Docket: 05000498, 05000499

License: NPF-76, NPF-80

Report: 05000498/2015002 and 05000499/2015002

Licensee: STP Nuclear Operating Company

Facility: South Texas Project Electric Generating Station, Units 1 and 2

Location: FM 521 - 8 miles west of Wadsworth  
Wadsworth, Texas 77483

Dates: April 5 through July 4, 2015

Inspectors: A. Sanchez, Senior Resident Inspector  
N. Hernandez, Resident Inspector  
B. Baca, Project Engineer/Health Physicist  
S. Janicki, Project Engineer  
R. Kopriva, Senior Reactor Inspector  
J. O'Donnell, Health Physicist  
C. Stott, Reactor Inspector

Approved By: Nick Taylor  
Branch Chief, Project Branch B  
Division of Reactor Projects

## SUMMARY

IR 05000498/2015002, 05000499/2015002; 04/05/2015 – 07/04/2015; South Texas Project Electric Generating Station, Units 1 and 2, Adverse Weather Protection, and Problem Identification and Resolution

The inspection activities described in this report were performed between April 5 and July 4, 2015, by the resident inspectors at the South Texas Project and inspectors from the NRC's Region IV office. Two findings of very low safety significance (Green) are documented in this report. Both of these findings involved violations of NRC requirements. Additionally, NRC inspectors documented in this report one licensee-identified violation of very low safety significance. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

### Cornerstone: Initiating Events

- Green. Inspectors identified a non-cited violation of Technical Specification 6.8.1.a for failure to follow Procedure 0PGP03-ZV-0002, "Hurricane Plan," Revision 7. Specifically, on June 15 through 16, 2015, the licensee failed to remove loose trash and materials inside the protected area to protect against potential missile hazards in accordance with Data Sheet 3 of Procedure 0PGP03-ZV-0002 in preparation for Tropical Storm Bill. The licensee has entered this issue into the corrective action program as Condition Report 15-17110.

The failure of the licensee to address and control potential missile hazards on site, on the Unit 1 mechanical auxiliary building roof, turbine deck, and around standby transformer 1 was a performance deficiency. Specifically, on June 16, 2015, the licensee failed to follow Data Sheet 3 of Procedure 0PGP03-ZV-0002, "Hurricane Plan," Revision 7, to adequately secure potential missile hazards in preparation for Tropical Storm Bill. The performance deficiency was determined to be more than minor because it was associated with the protection against external factor attribute and adversely affected the Initiating Event Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. Using NRC Inspection Manual 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," the inspectors determined the finding was of very low safety significance (Green) because it did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined the finding had a cross-cutting aspect in the area of problem identification and resolution associated with resolution. Specifically, the licensee failed to take effective corrective action from previous NRC-identified instances in the past where the licensee had loose material and debris that could become a missile hazards during a severe weather event [P.3]. (Section 1R01)

### Cornerstone: Mitigating Systems

- Green. The inspectors documented a self-revealing, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to have adequate measures for the selection and review for suitability of application of parts that are essential to the

safety-related functions of structures, systems and components. Specifically, the licensee failed to properly inspect and test essential chiller condenser purge check valves during the station's commercial dedication process to ensure proper function in their safety-related application. The licensee has entered the issue into the corrective action program as Condition Report 15-4990 and has implemented corrective actions to the technical evaluation that will adequately measure and test the purge check valve in the future.

The failure to properly inspect and test essential chiller condenser check valves during the station's commercial dedication process to ensure proper function in the safety-related application was a performance deficiency. This performance deficiency is more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, on January 18, 2015, March 5, 2015, and March 21, 2015, the inadequately dedicated purge check valves resulted in a trip of the essential chiller, rendering the train inoperable and challenging plant operations. Using NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding was of very low safety significance (Green) because it did not affect the design or qualification of the system, did not result in a loss of system function, did not represent a loss of function of a single train for greater than its technical specifications allowed outage time, and did not cause the loss of function of one or more non-technical specification trains of equipment designated as high safety-significance. The inspectors determined that the finding did not have a cross-cutting aspect because the main contributor to the cause of the performance deficiency occurred in 1993. (Section 4OA2)

### **Licensee-Identified Violations**

A violation of very low safety significance that was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and associated corrective action tracking numbers are listed in Section 4OA7 of this report.

## PLANT STATUS

Unit 1 began the period at 100 percent and remained there for the entire inspection period.

Unit 2 began the period in Mode 6 for Refueling Outage 2RE17. On May 15, 2015, the reactor achieved 100 percent power and remained there for the rest of the inspection period.

## REPORT DETAILS

### 1. REACTOR SAFETY

#### Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R01 Adverse Weather Protection (71111.01)

##### Readiness for Impending Adverse Weather Conditions

##### a. Inspection Scope

On May 27, 2015, the inspectors completed an inspection of the station's readiness for impending adverse weather conditions. The inspectors reviewed plant design features, the licensee's procedures to respond to tornadoes and high winds, and the licensee's implementation of these procedures for a tornado watch on May 25 and May 26, 2015. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. The inspectors also evaluated the licensee's control of planned work for those safety-related systems.

On June 17, 2015, the inspectors completed an inspection of the station's readiness for impending adverse weather conditions. The inspectors reviewed plant design features, the licensee's procedures to respond to tropical storms and hurricanes, and the licensee's implementation of these procedures for Tropical Storm Bill on June 15 through June 17. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. The inspectors also evaluated the licensee's control of planned work for those safety-related systems.

These activities constituted two samples of readiness for impending adverse weather conditions, as defined in Inspection Procedure 71111.01.

##### b. Findings

Introduction. Inspectors identified a Green, non-cited violation of Technical Specification 6.8.1.a for failure to follow Procedure 0PGP03-ZV-0002, "Hurricane Plan," Revision 7. Specifically, on June 15 through 16, 2015, the licensee failed to remove loose trash and materials inside the protected area to protect against potential missile hazards in accordance with Data Sheet 3 of Procedure 0PGP03-ZV-0002, in preparation for Tropical Storm Bill.

Description. On June 13, 2015, the licensee became aware of a tropical system that would likely impact the plant the week of June 15 and began to prepare for the storm. The licensee entered Procedure 0PGP03-ZV-0002, "Hurricane Plan," Revision 7, Data Sheet 3. A punch list of items and areas that needed attention was put together and



was completed by the end of dayshift Monday, June 15. The tropical system developed into Tropical Storm Bill. Tropical Storm Bill was scheduled to impact the site the morning of June 16, but slowed and did not make landfall until the afternoon. This gave the inspectors another opportunity to walk down the site after the licensee had completed their storm preparations. The inspectors toured the station, paying special attention to the protected area and in areas of high work activity.

The inspectors identified numerous potential missile hazards, especially in and around Unit 1. Some of these issues identified included: 1) many unsecured items on the mechanical auxiliary building roof, such as empty 5-gallon buckets, trash can lids, rope and torn concealment tarps, which pertained to ongoing FLEX modification work; 2) large floor mat and boxed sheet metal ventilation ducting on the turbine deck above the main and standby transformer 1; and 3) two flatbed trucks with mops, brooms, and various small pieces of wood, rope, and cables near the standby transformer 1. Standby transformer 1 supplies Unit 1 with offsite power for engineered safety feature loads, and can be also aligned to supply a train of Unit 2 engineered safety feature loads.

The inspectors informed the control room of the observations and the licensee promptly took action to secure or remove the potential missile hazards. Tropical Storm Bill made landfall and directly impacted the site on the afternoon of June 16. Both units remained at 100 percent power, and wind speeds on site were approximately 40 miles per hour average with gusts up to 60 miles per hour. The high winds associated with this storm were forceful enough to cause damage to several non-safety related structures on site.

On several occasions in the last 2 years, the inspectors identified areas of the plant that were not prepared for severe weather after the licensee had completed their storm preparations. On each occasion, the licensee initiated condition reports and addressed the items pointed out by the inspectors. However, the corrective actions to date only addressed that specific area and failed to evaluate and determine if there was a larger issue with the process or how procedures and site management's expectations were being implemented. This most recent issue was placed into the corrective action program as Condition Report 15-17110.

Analysis. The failure of the licensee to address and control potential missile hazards on site, on the Unit 1 mechanical auxiliary building roof, turbine deck, and around standby transformer 1 was a performance deficiency. Specifically, on June 16, 2015, the licensee failed to follow Data Sheet 3 of Procedure OPGP03-ZV-0002, "Hurricane Plan," Revision 7, to adequately secure potential missile hazards in preparation for Tropical Storm Bill. The performance deficiency was determined to be more than minor because it was associated with the protection against external factor attribute and adversely affected the Initiating Events Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. Using NRC Inspection Manual 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," the inspectors determined the finding was of very low safety significance (Green) because it did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined the finding had a cross-cutting aspect in the area of problem identification and resolution associated with resolution. Specifically, the licensee failed to take effective corrective action from previous NRC-identified instances in the past where the licensee had loose material and debris that could become a missile hazards during a severe weather event. [P.3].

Enforcement. Technical Specification 6.8.1.a requires, in part, written procedures shall be established, implemented, and maintained covering applicable procedures in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 6.w, "Acts of Nature," requires procedure for acts of nature. Contrary to the above, on June 16, 2015, the licensee failed to properly implement Procedure OPGP03-ZV-0002, "Hurricane Plan," Revision 7, to remove loose trash and materials inside the protected area to protect against potential missile hazards. The licensee promptly addressed all items identified by the inspectors, and as a result, there was no plant damage identified following the tropical storm. The violation was entered into the licensee's corrective action program as Condition Report 15-17110. This violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000498/2015002-01; 05000499/2015002-01, "Failure to Follow Hurricane Plan Procedure to Secure Missile Hazards During Tropical Storm Bill."

#### **1R04 Equipment Alignment (71111.04)**

##### Partial Walkdown

###### a. Inspection Scope

The inspectors performed partial system walk-downs of the following risk-significant systems:

- June 23, 2015, Unit 2, train B, 120 volts alternating current inverter and 125 volts direct current battery during 10-year rebuild of the train D, 120 volts alternating current inverter
- June 24, 2015, Unit 1, feedwater booster pumps 11 and 13 during replacement of the feedwater booster pump 12 auxiliary lube oil pump

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems and trains were correctly aligned for the existing plant configuration.

These activities constituted two partial system walk-down samples, as defined in Inspection Procedure 71111.04.

###### b. Findings

No findings were identified.

#### **1R05 Fire Protection (71111.05)**

##### Quarterly Inspection

###### a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on four plant areas important to safety:

- June 9, 2015, Unit 2, electrical auxiliary building, Fire Area 03 and Fire Zone Z043
- July 2, 2015, Unit 1, technical support center diesel room, Fire Area 99 and Fire Zone Z912
- July 3, 2015, Unit 2, electrical auxiliary building, Fire Area 03 and Fire Zone Z045
- July 3, 2015, Unit 2, electrical auxiliary building, Fire Area 01 and Fire Zone Z032

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted four quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

**1R07 Heat Sink Performance (71111.07)**

a. Inspection Scope

On March 29 and June 23, 2015, the inspectors completed an inspection of the readiness and availability of risk-significant heat exchangers. For the Unit 2 component cooling water heat exchangers, the inspectors: (1) observed the setup of the performance test, (2) reviewed the data from a performance test, and (3) verified the licensee used the industry standard periodic maintenance method outlined in EPRI NP-7552. Additionally, the inspectors walked down the heat exchanger to observe its performance and material condition and verified that the heat exchanger was correctly categorized under the Maintenance Rule and was receiving the required maintenance.

These activities constitute completion of one heat sink performance annual review sample, as defined in Inspection Procedure 71111.07.

b. Findings

No findings were identified.

## 1R08 Inservice Inspection Activities (71111.08)

The activities described in subsections 1 through 4 below constitute completion of one inservice inspection sample, as defined in Inspection Procedure 71111.08.

### .1 Non-destructive Examination (NDE) Activities and Welding Activities

#### a. Inspection Scope

The inspectors directly observed the following nondestructive examinations:

<u>SYSTEM</u>	<u>WELD IDENTIFICATION</u>	<u>EXAMINATION TYPE</u>
Main Steam	Steam Generator Steam Outlet Power Operated Relief Valve (ORC), Valve Stem Shank.	Penetrant Examination
Residual Heat Removal System	Residual Heat Removal Valve RH-0032A – pipe end weld preps after machining.	Penetrant Examination
Residual Heat Removal System	Residual Heat Removal check valve RH-0032A. Weld # FW0001 (Outlet). Final PT after welding.	Penetrant Examination
Residual Heat Removal System	Residual Heat Removal check valve RH-0032A. Weld # FW0002 (Inlet). Final PT after welding.	Penetrant Examination
Residual Heat Removal System	Residual heat removal check valve RH-0032A. Record # FW0002, Dated 04/15/2015.	Radiograph Examination
Safety Injection	FLEX Modification tie-in to the Safety injection system. Weld # HFW0083 (Train A), HFW0087 (Train A).	Radiograph Examination
Reactor Coolant System	Reactor coolant system pipe to pipe weld. Component ID # 12 inch - RC-2312-BB1 Weld 6.	Ultrasonic Examination
Reactor Coolant System	Reactor coolant system pipe to pipe weld. Component ID # 12 inch - RC-2312-BB1 Weld 7.	Ultrasonic Examination

<u>SYSTEM</u>	<u>WELD IDENTIFICATION</u>	<u>EXAMINATION TYPE</u>
Reactor Coolant System	Reactor coolant system pipe to pipe weld. Component ID # 12 inch - RC-2312-BB1 Weld 10.	Ultrasonic Examination
Reactor Coolant System	Weld Number RPV2-N1DSE, Outlet Nozzle 158°. Nozzle to Safe End Weld (DM).	Ultrasonic Examination
Reactor Coolant System	Weld Number 29-RC-2401-1, Outlet Nozzle at 158°. Safe End to Pipe.	Ultrasonic Examination
Reactor Coolant System	Weld Number RPV2-N1ASE, Outlet Nozzle at 202°. Nozzle to Safe End Weld (DM).	Ultrasonic Examination
Reactor Coolant System	Weld Number 29-RC-2101-1, Outlet Nozzle at 202°. Safe End to Pipe.	Ultrasonic Examination
Reactor Containment	Personnel Airlock. Component ID # M-90-LP-BLT-OE-IL.	Visual Examination
Reactor Containment	Personnel Airlock. Component ID # M-90-EV-BLT-OE.	Visual Examination
Reactor Containment	Personnel Airlock. Component ID # M-90-DH-BLT-OE-IL.	Visual Examination
Reactor Containment	Containment Liner, CC-LINER-GV-F, (180-270 degrees) Elevation >83 feet.	Visual Examination
Safety Injection System	Safety Injection system pipe support (Safety Injection tank room. Component ID # - RR/SI-2101-HL5019.	Visual Examination

The inspectors reviewed records for the following nondestructive examinations:

<u>SYSTEM</u>	<u>IDENTIFICATION</u>	<u>EXAMINATION TYPE</u>
Main Feedwater System	Pipe lugs. Component ID # - 18-FW-2032-AA2, 1PL1-1PL8.	Magnetic Particle Examination
Main Steam	Steam Generator Steam Outlet Power Operated Relief Valve (ORC), Valve Stem Shank.	Penetrant Examination
Residual Heat Removal System	Residual heat removal check valve. RH-0032A Component ID # RG-2018-BB1.	Radiograph Examination
Safety Injection	FLEX Modification tie-in to the Safety injection system. ID/Weld # HFW0089, HFW0084, HFW0088 (all train A).	Radiographic Examination
Reactor Coolant System	Weld Number RPV2-N1BSE, Outlet Nozzle 338°. Nozzle to Safe End Weld (DM).	Ultrasonic Examination
Reactor Coolant System	Weld Number 29-RC-2201-1, Outlet Nozzle at 338°. Safe End to Pipe.	Ultrasonic Examination
Reactor Coolant System	Weld Number RPV2-N1CSE, Outlet Nozzle at 22°. Nozzle to Safe End Weld (DM).	Ultrasonic Examination
Reactor Coolant System	Weld Number 29-RC-2301-1, Outlet Nozzle at 22°. Safe End to Pipe.	Ultrasonic Examination
Residual Heat Removal System	Component ID # FW0001 and FW0002.	Visual Examination

During the review and observation of each examination, the inspectors observed whether activities were performed in accordance with the ASME Code requirements and applicable procedures. The inspector reviewed 7 indications and observed whether the licensee evaluated and accepted the indications in accordance with the ASME Code and/or an NRC approved alternative.

The inspectors also reviewed the qualifications of all nondestructive examination technicians performing the inspections to determine whether they were current.

The inspectors directly observed a portion of the following welding activities:

<u>System</u>	<u>Weld Identification</u>	<u>Weld Type</u>
Reactor Coolant System	Residual Heat Removal check valve RH-0032A, FW0001 - Outlet side of valve.	Manual Gas Tungsten Arc Welding.
Reactor Coolant System	Residual Heat Removal check valve RH-0032A, FW0002 - Inlet side of valve.	Manual Gas Tungsten Arc Welding.
Safety Injection System	FLEX Modification tie-in to Safety Injection System – Train “A”.	Manual Gas Tungsten Arc Welding.

The inspectors reviewed records of the following welding activities:

<u>System</u>	<u>Weld Identification</u>	<u>Weld Type</u>
Reactor System	Reactor Head Vent Valves A2RCHV3657A, B2RCHV3657B, A2RCHV36578A, B2RCHV3658B	Manual Gas Tungsten Arc Welding.

The inspectors reviewed whether the welding procedure specifications and the welders had been properly qualified in accordance with ASME Code Section IX requirements. The inspectors also determined whether that essential variables were identified, recorded in the procedure qualification record, and formed the bases for qualification of the welding procedure specifications.

b. Findings

No findings of significance were identified.

.2 Vessel Upper Head Penetration Inspection Activities

a. Inspection Scope

The inspectors reviewed the results of the licensee’s bare metal visual inspection of the Reactor Vessel Upper Head Penetrations to determine whether the licensee identified any evidence of boric acid challenging the structural integrity of the reactor head components and attachments. The inspectors also verified that the required inspection coverage was achieved and limitations were properly recorded. The inspectors reviewed whether the personnel performing the inspection were certified examiners to their respective nondestructive examination method.

b. Findings

No findings of significance were identified.

.3 Boric Acid Corrosion Control Inspection Activities

a. Inspection Scope

The inspectors evaluated the implementation of the licensee's boric acid corrosion control program for monitoring degradation of those systems that could be adversely affected by boric acid corrosion. The inspectors reviewed the documentation associated with the licensee's boric acid corrosion control walkdown as specified in Procedure 0PGP03-ZE-0133, "Boric Acid Corrosion Control Program," Revision 8, and Procedure 0PGP03-ZE-0033, "RCS Pressure Boundary Inspection for Boric Acid Leaks", Revision 13. The inspectors reviewed visual records of components and equipment containing boric acid leaks. The inspectors performed walkdowns of Residual Heat Removal pump 2C and the associated valve room along with portions of the Safety Injection, Reactor Coolant, and Chemical Volume Control systems. The inspectors verified that the visual inspections emphasized locations where boric acid leaks could cause degradation of safety-significant components. The inspectors also verified that the engineering evaluations for those components where boric acid was identified gave assurance that the ASME Code wall thickness limits were properly maintained.

b. Findings

No findings of significance were identified.

.4 Steam Generator Tube Inspection Activities

a. Inspection Scope

The licensee did not perform any steam generator activities during Refueling Outage 2RE17.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection scope

The inspectors reviewed 41 condition reports which dealt with inservice inspection activities and found the corrective actions to be appropriate. The specific condition reports reviewed are listed in the documents reviewed section. From this review the inspectors concluded that the licensee has an appropriate threshold for entering issues into the corrective action program and has procedures that direct a root cause evaluation when necessary. The licensee also has an effective program for applying industry operating experience. Specific documents reviewed during this inspection are listed in the attachment.



b. Findings

No findings of significance were identified.

**1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)**

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On May 25, 2015, the inspectors observed an evaluated simulator scenario performed by an operating crew. The inspectors assessed the performance of the operators and the evaluators' critique of their performance.

These activities constitute completion of one quarterly licensed operator requalification program sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

On May 7, 2015, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to performing a reactor start-up following completion of Maintenance Outage 2RE17. The inspectors observed the operators' performance of the following activities:

- Reactor start-up, including the pre-job brief

In addition, the inspectors assessed the operators' adherence to plant procedures, including conduct of operations procedure and other operations department policies.

These activities constitute completion of one quarterly licensed operator performance sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

**1R12 Maintenance Effectiveness (71111.12)**

a. Inspection Scope

The inspectors reviewed three instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- March 5 and March 21, 2015, Unit 1, essential chiller 12C trip on low oil pressure due to defective purge check valve resulting in the system being placed into Maintenance Rule a(1)
- April 22, 2015, Unit 1 and 2, technical support center diesel generator non-functional due to an inadequate temporary modification during refueling outages and resulted in an ORAM red risk status
- May 7, 2015, Unit 2, train B main steam power operated relief valve functional failure due to packing leak

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of three maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

**1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)**

a. Inspection Scope

The inspectors reviewed five risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- April 4 and April 7, 2015, Unit 2, crane operations near standby 2 transformer to replace feedwater heaters 23A and B during Refueling Outage 2RE17
- May 7, 2015, Unit 2, train B steam generator power operated relief valve risk functional failure due to packing leak during reactor start-up
- June 9, 2015, Unit 2, train B, 125 volts direct current battery breaker replacement that required entry into the station's Configuration Risk Management Program
- June 23, 2015, Unit 2, train D, 120 volts alternating current 10-year inverter preventative maintenance that required use of the station's Configuration Risk Management Program
- June 30, 2015, Unit 2, train S solid state protection system logic card failure that required entry into the station's Configuration Risk Management Program

The inspectors verified that these risk assessments were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

The inspectors also reviewed the licensee's actions for implementing the Configuration Risk Management Program for determining and implementing the risk-informed allowed outage time for the planned activities listed above.

The inspectors also observed portions of emergent work activities that had the potential to cause an initiating event:

- June 15 through 17, 2015, Unit 2, rescheduled work activities that involved the use of station's risk management program due to Tropical Storm Bill

The inspectors verified that the licensee appropriately developed and followed a work plan for these activities. The inspectors verified that the licensee took precautions to minimize the impact of the work activities on unaffected SSCs.

These activities constitute completion of six maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

b. Findings

No findings were identified.

**1R15 Operability Determinations and Functionality Assessments (71111.15)**

a. Inspection Scope

The inspectors reviewed four operability determinations and functionality assessments that the licensee performed for degraded or nonconforming SSCs:

- April 20, 2015, operability determination of the Unit 2 temperature element TE-0420Y thermowell (loop B hot leg) reaming activities that left the inner diameter out of tolerance
- May 8, 2015, operability determination of Unit 1 electrical auxiliary building train B heating, ventilation, and air conditioning damper following discovery of two corroded areas
- June 8, 2015, functionality assessment of Unit 2, train B emergency features safeguards 13.8 kV transformer upon receiving alarms on the load tap changer
- June 11, 2015, operability assessment of Unit 2, reactor coolant system loop 2B hot leg narrow range temperature element TE-0420Z that became grounded

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable or functional, the inspectors verified that the licensee's compensatory measures were

appropriate to provide reasonable assurance of operability or functionality. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability or functionality of the degraded SSC.

These activities constitute completion of four operability and functionality review samples, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

**1R18 Plant Modifications (71111.18)**

Permanent Modifications

a. Inspection Scope

On June 9, 2015, the inspectors reviewed a permanent plant modification for the replacement of the Class 1E, 125 volts direct current battery output breaker on Unit 2 train B.

The inspectors reviewed the design and implementation of the modification. The inspectors verified that work activities involved in implementing the modification did not adversely impact operator actions that may be required in response to an emergency or other unplanned event. The inspectors verified that post-modification testing was adequate to establish the operability of the SSC as modified.

These activities constitute completion of one sample of permanent modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

**1R19 Post-Maintenance Testing (71111.19)**

a. Inspection Scope

The inspectors reviewed six post-maintenance testing activities that affected risk-significant SSCs:

- April 10, 2015, Unit 2, train B 13.8 kV to 4160 volts alternating current emergency safeguards features transformer following repair of cable stress cones
- April 20, 2015, Unit 2, FLEX diesel generator 22 following initial installation
- April 27, 2015, Unit 2, train B main steam power operated relief valve following replacement of valve internals
- May 3, 2015, Unit 2, train A low head safety injection to loop 2A cold leg check valve following complete replacement

- May 9, 2015, Unit 2, train B main steam power operated relief valve following replacement of valve stem and follower
- June 9, 2015, Unit 2, train B, 125 volts direct current battery breaker E2B11 following replacement

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

These activities constitute completion of six post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

**1R20 Refueling and Other Outage Activities (71111.20)**

a. Inspection Scope

During the station's 2RE17 Refueling Outage that concluded on May 9, 2015, the inspectors evaluated the licensee's outage activities. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Review and verification of the licensee's fatigue management activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Observation and review of reduced-inventory and mid-loop activities
- Observation and review of fuel handling activities
- Monitoring of heat-up and startup activities

These activities constitute completion of one refueling outage sample, as defined in Inspection Procedure 71111.20.

b. Findings

No findings were identified.

**1R22 Surveillance Testing (71111.22)**

a. Inspection Scope

The inspectors observed six risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the SSCs were capable of performing their safety functions:

In-service tests:

- June 11, 2015, Unit 2, emergency diesel 22, 24-hour load test
- June 12, 2015, Unit 1, train A centrifugal charging pump 1A quarterly pump test

Containment isolation valve surveillance tests:

- April 18, 2015, Unit 2, containment penetration M-18, train A high head safety injection discharge isolation valves 2-SI-0005A, 2-SI-0004A, and 2-SI-0211A

Other surveillance tests:

- May 20, 2015, Unit 1, control room makeup and cleanup emergency function testing
- June 8, 2015, Unit 2, train B emergency safeguards features 13.8 kV to 4.1 kV emergency transformer load tap changer test
- June 13, 2015, Unit 1, monthly control rod operability test

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constitute completion of six surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

**Cornerstones: Public Radiation Safety and Occupational Radiation Safety**

**2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)**

a. Inspection Scope

The inspectors assessed the licensee's performance in assessing the radiological hazards in the workplace associated with licensed activities. The inspectors assessed the licensee's implementation of appropriate radiation monitoring and exposure control measures for both individual and collective exposures. The inspectors walked down various portions of the plant and performed independent radiation dose rate measurements. The inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors reviewed licensee performance in the following areas:

- The hazard assessment program, including a review of the licensee's evaluations of changes in plant operations and radiological surveys to detect dose rates, airborne radioactivity, and surface contamination levels
- Instructions and notices to workers, including labeling or marking containers of radioactive material, radiation work permits, actions for electronic dosimeter alarms, and changes to radiological conditions
- Programs and processes for control of sealed sources and release of potentially contaminated material from the radiologically controlled area, including survey performance, instrument sensitivity, release criteria, procedural guidance, and sealed source accountability
- Radiological hazards control and work coverage, including the adequacy of surveys, radiation protection job coverage and contamination controls, the use of electronic dosimeters in high noise areas, dosimetry placement, airborne radioactivity monitoring, controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools, and posting and physical controls for high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements. Audits, self-assessments, and corrective action documents related to radiological hazard assessment and exposure controls since the last inspection.

These activities constitute completion of one sample of radiological hazard assessment and exposure controls, as defined in Inspection Procedure 71124.01.

b. Findings

No findings were identified.

**2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)**

a. Inspection Scope

The inspectors evaluated whether the licensee controlled in-plant airborne radioactivity concentrations consistent with ALARA principles and that the use of respiratory protection devices did not pose an undue risk to the wearer. During the inspection, the inspectors interviewed licensee personnel, walked down various portions of the plant, and reviewed licensee performance in the following areas:

- The licensee's use, when applicable, of ventilation systems as part of its engineering controls
- The licensee's respiratory protection program for use, storage, maintenance, and quality assurance of National Institute for Occupational Safety and Health certified equipment, qualification and training of personnel, and user performance

- The licensee’s capability for refilling and transporting self-contained breathing apparatus air bottles to and from the control room and operations support center during emergency conditions, status of self-contained breathing apparatus staged and ready for use in the plant and associated surveillance records, and personnel qualification and training
- Audits, self-assessments, and corrective action documents related to in-plant airborne radioactivity control and mitigation since the last inspection

These activities constitute completion of one sample of in-plant airborne radioactivity control and mitigation, as defined in Inspection Procedure 71124.03.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security**

**40A1 Performance Indicator Verification (71151)**

.1 Safety System Functional Failures (MS05)

a. Inspection Scope

For the period of January 2014 through March 2015, the inspectors reviewed licensee event reports, maintenance rule evaluations, and other records that could indicate whether safety system functional failures had occurred. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, and NUREG-1022, “Event Reporting Guidelines: 10 CFR 50.72 and 50.73,” Revision 3, to determine the accuracy of the data reported.

These activities constituted verification of the safety system functional failures performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors reviewed the licensee’s reactor coolant system chemistry sample analyses for the period of January 2014 through March 2015 to verify the accuracy and completeness of the reported data. The inspectors used definitions and guidance



contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the reactor coolant system specific activity performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Reactor Coolant System Identified Leakage (BI02)

a. Inspection Scope

The inspectors reviewed the licensee's records of reactor coolant system identified leakage for the period of January 2014 through March 2015 to verify the accuracy and completeness of the reported data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the reactor coolant system leakage performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Occupational Exposure Control Effectiveness (OR01)

a. Inspection Scope

The inspectors verified that there were no unplanned exposures or losses of radiological control over locked high radiation areas and very high radiation areas during the period of January 1, 2014 through March 31, 2015. The inspectors reviewed a sample of radiologically controlled area exit transactions showing exposures greater than 100 mrem. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the occupational exposure control effectiveness performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.5 Radiological Effluent Technical Specifications (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrences (PR01)

a. Inspection Scope

The inspectors reviewed corrective action program records for liquid or gaseous effluent releases that occurred between January 1, 2014 and March 31, 2015, and were reported to the NRC to verify the performance indicator data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the radiological effluent technical specifications (RETS)/offsite dose calculation manual (ODCM) radiological effluent occurrences performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

**40A2 Problem Identification and Resolution (71152)**

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Semiannual Trend Review

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program, performance indicators, system and program health reports, and other documentation to identify trends that might indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address identified adverse trends.

These activities constitute completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

b. Observations and Assessments

Several trends emerged and were identified by both the licensee and the inspectors. The following is a list of the trends and a brief description:

- An increase in the number of foreign material exclusion events during Refueling Outage 2RE17 that challenged reactor coolant system and fuel integrity
- Fatigue rule station procedure violations
- Hot work permit violations and several small fire events
- A number of maintenance re-work items during Refueling Outage 2RE17
- A number of personnel contamination events that exceeded outage goal by approximately 20
- Numerous housekeeping issues, especially inside containment

The inspectors determined, through interviews with station personnel and by direct observation, that several of these trends were due in part to lack of management presence in the field. These trends have been discussed with the responsible departments, condition reports generated, and corrective action taken or scheduled to be taken.

c. Findings

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected one issue for an in-depth follow-up:

- From January 2015 through March 2015, safety related essential chillers tripped on low oil pressure three times from the failure of a condenser purge check valve.

The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews and compensatory actions. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate to [correct the condition].

These activities constitute completion of one annual follow-up sample, as defined in Inspection Procedure 71152.

b. Findings

Introduction. The inspectors documented a self-revealing, Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to have adequate measures for the selection and review for suitability of application of parts that are essential to the safety-related functions of structures, systems and components. Specifically, the licensee failed to properly inspect and test essential chiller condenser purge check valves during the station's commercial dedication process to ensure proper function in their safety-related application.

Description. On January 18, 2015, the Unit 2 essential chiller 22A tripped on low oil pressure. This trip rendered the system inoperable, and the licensee entered Technical Specification 3.7.14. Operators investigated the failure and determined that the purge check valve was the cause of the low oil pressure condition. Specifically, the purge check valve had failed in the open position, and drained the oil from the system during a system purge of air and non-condensable gases. The valve was replaced, and the system was restored and declared operable. The licensee did not further investigate the cause for the failure. On March 5, 2015, the Unit 1 essential chiller 12C tripped following preventative maintenance that had replaced the condenser purge check valve, and then failed once again on March 21, 2015 due to a stuck open condenser purge check valve. Following this third failure, the licensee conducted a root cause investigation to determine the cause of the repetitive failures. This issue was entered into the licensee's corrective action program as Condition Report 15-4990.

The licensee's evaluation of all three instances concluded that the station's commercial dedication process did not identify critical characteristics for the internal thread depth and pressure testing for the essential chiller purge check valves. Specifically, the internal threads extended too far into the valve, which resulted in internal binding and allowed the oil to drain from the system. The licensee noted that the production of the purge check valves for the essential chiller had been outsourced from the original equipment manufacturer to an outside company, which produced the defective parts. Station Procedure OPGP03-ZP-0014, "Safety/Quality Classification and Dedication of Parts," Revision 5, specifies a process to provide reasonable assurance that a commercial grade item to be used as a basic component will perform its intended safety function and is deemed equivalent to an item designed and manufactured under a 10 CFR Part 50, Appendix B quality assurance program. The licensee concluded that their commercial dedication receipt and testing standards for these valves, as documented in technical evaluation 501-38270, which was last modified in 1993, was not adequate to have identified the defective part. Specifically, the station's commercial dedication process did not specify the internal thread depth as a critical characteristic, and only required testing the valve for flow in one direction and not in a manner in which the part was to operate (cyclic and in both open and closed directions). The licensee has implemented corrective actions to update the technical evaluation to add the internal thread depth as a critical characteristic and require flow testing in open and closed directions in the future.

Analysis. The licensee's failure to properly inspect and test essential chiller condenser purge check valves during the commercial dedication process to ensure proper function in the safety-related application was a performance deficiency. This performance deficiency is more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability,

reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, on January 18, 2015, March 5, 2015, and March 21, 2015, the inadequately dedicated purge check valves resulted in a trip of the essential chiller, rendering the train inoperable and challenging plant operations. Using NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding was of very low safety significance (Green) because it did not affect the design or qualification of the system, did not result in a loss of system function, did not represent a loss of function of a single train for greater than its technical specifications allowed outage time, and did not cause the loss of function of one or more non-technical specification trains of equipment designated as high safety-significance. The inspectors determined that the finding did not have a cross-cutting aspect because the main contributor to the cause of the performance deficiency occurred during revision of the technical evaluation in 1993.

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," states in part, that measures shall be established for the selection and review for suitability of application of parts that are essential to the safety-related functions of structures, systems and components. Contrary to the above, since 1993, the licensee failed to implement measures for the review of suitability of application of parts that were essential to the safety-related functions of structures, systems and components. Specifically, the failure to define critical characteristics and adequately test those characteristics as required by station Procedure OPGP03-ZP-0014, "Safety/Quality Classification and Dedication of Parts," Revision 5, resulted in installation of defective essential chiller purge check valves and three trips of safety related essential chillers. The violation was entered into the licensee's corrective action program as Condition Report 15-4990. This violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000498/2015002-02; 05000499/2015002-02, "Failure to Properly Dedicate Essential Chiller Purge Check Valves."

#### **40A3 Follow-up of Events and Notices of Enforcement Discretion**

- .1 (Closed) Licensee Event Report 05000499/2015-001-00, "Technical Specification Action Statement Time Exceeded Due to Turbine-Driven Auxiliary Feedwater Pump Test Failure Not Recognized"

On March 4, 2015, the licensee failed to recognize that the Unit 2 turbine-driven auxiliary feedwater (AFW) pump 24 failed to meet surveillance acceptance criteria for as-found discharge pressure. The licensee identified the failure during a review of surveillance documentation on March 11, 2015, and declared AFW pump 24 inoperable from the date of the failed surveillance. As a result, the technical specification allowed outage time of 72 hours was exceeded. The governor was replaced and AFW pump 24 was declared operable on March 14, 2015.

The licensee entered this event into the corrective action program as Condition Report 2015-5477, and conducted a root cause investigation to determine the cause of not immediately identifying a failed surveillance and to determine why a repair to the governor had been delayed until the next refueling outage, 2RE17, in April 2015.

Inspectors reviewed the root cause evaluation. The licensee determined the root cause was inadequate communication of an operable but degraded condition that was declared

following a December 11, 2014, prompt operability determination. Corrective actions include revising the operability assessment system program and developing a standardized prompt determination process.

The licensee also identified three contributing causes: 1) the as-found discharge pressure data was not being trended by the engineering department, 2) station personnel did not understand or follow the process to reschedule work, and 3) operators used ineffective verification practices for surveillance acceptance criteria. Corrective actions included the acquisition of software to trend as-found discharge pressure, analysis to determine training needs regarding the process of rescheduling work, and additional training for the personnel who conducted the failed surveillance. The inspectors determined the licensee's actions were adequate and appropriate.

The enforcement and significance of this event are discussed in section 4OA7 of this inspection report.

Licensee Event Report 05000499/2015-001-00 is closed.

These activities constitute completion of one event follow-up sample, as defined in Inspection Procedure 71153.

#### **4OA6 Meetings, Including Exit**

##### Exit Meeting Summary

On April 17, 2015, the inspectors presented the radiation safety inspection results to Mr. D. Koehl, President and Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On April 17, 2015, the inspectors debriefed the inservice inspection results to Mr. G. Powell, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors acknowledged review of proprietary material during the inspection, which had been or will be returned to the licensee.

On July 16, 2015, the inspectors presented the resident inspection results to Mr. L. Peter, General Manager of Projects, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

#### **4OA7 Licensee-Identified Violations**

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as a Non-Cited Violation.

- Technical Specification 3.7.1.2, "Auxiliary Feedwater System," requires, in part, that four independent steam generator AFW pumps and associated flow paths shall be operable with one steam turbine-driven AFW pump capable of being powered from an operable steam supply system. Action B of Technical Specification 3.7.1.2 allows the

turbine-driven AFW pump to be inoperable for 72 hours or the requirements of the Configuration Risk Management Program must be applied. Contrary to the above, the turbine-driven AFW pump was inoperable for greater than 72 hours without application of the Configuration Risk Management Program. Specifically, the licensee failed to recognize that the turbine-driven AFW pump did not meet acceptance criteria for a surveillance performed on March 4, 2015. During a review of surveillance documentation on March 11, 2015, the licensee recognized that the pump had failed the surveillance and was inoperable until repairs could be completed. As a result, the pump was inoperable from March 4, 2015 to March 14, 2015, which exceeded the technical specification allowed outage time of 72 hours. This finding has very low safety significance (Green) because the finding did not lead to an actual loss of safety function of the system or cause a component to be inoperable. This issue was entered into the licensee's corrective action program as Condition Report 2015-5477.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

R. Aguilera, Manager, Health Physics  
J. Ashcraft, Quality Control  
J. Atkins, Manager, Systems Engineering  
M. Berg, Manager, Design Engineering/Testing and Programs  
C. Bowman, Manager, Nuclear Oversight  
W. Brost, Engineer, Licensing  
J. Connolly, General Manager, Engineering  
R. Dunn Jr., Manager, Nuclear Fuel and Analysis  
T. Frawley, Manager, Plant Protection/Emergency Response  
M. Garner, Nondestructive Examination Examiner  
R. Gibbs, Manager, Operations, Production Support  
R. Gonzales, Senior Engineer, Licensing  
J. Hartley, Manager, Mechanical Maintenance  
J. Heil, TPE Engineer, Programs  
G. Hildebrandt, Manager, Operations  
G. Janak, Operations Training Manager  
K. Kawabata, Plant Health Physicist, Radiation Protection  
G. Kelton, Supervisor, Radiation Protection  
D. Koehl, President and CEO  
J. Lovejoy, Manager, I&C Maintenance  
R. McNeil, Manager, Maintenance Engineering  
J. Milliff, Manager, Security  
M. Murray, Manager, Regulatory Affairs  
R. Nieman, Site Authorized Nuclear Inspector (ANII)  
L. Peter, General Manager, Projects  
J. Pierce, Manager, Unit 1 Operations  
G. Powell, Site Vice President  
R. Richardson, Welding Engineer  
M. Ruvalcaba, Manager, Strategic Projects  
R. Savage, Engineer, Licensing Staff Specialist  
R. Scarborough, Manager, Quality Assurance  
M. Schaefer, Plant General Manager  
S. Shojaei, Repair and Replacement Program Engineer, Testing Programs  
L. Spiess, Supervisor, Testing Programs  
R. Stastny, Maintenance Manager  
L. Sterling, Supervisor, Licensing  
T. Wacker, Engineer, Quality Programs  
R. Wied, Radiation Protection Technician, Health Physics  
J. Williams, Engineer, Testing Programs  
P. Williams, Program Manager, Boric Acid Corrosion Control  
C. Younger, Testing Programs  
D. Zink, Supervising Engineering Specialist



## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened and Closed

05000498/2015002-01 05000499/2015002-01	NCV	Failure to Follow Hurricane Plan Procedure to Secure Missile Hazards During Tropical Storm Bill (1R01)
05000498/2015002-02 05000499/2015002-02	NCV	Failure to Properly Dedicate Essential Chiller Purge Check Valves (4OA2)

### Closed

05000499/2015-001-00	LER	Technical Specification Action Statement Time Exceeded Due to Turbine Drive Auxiliary Feedwater Pump Test Failure Not Recognized
----------------------	-----	--

## LIST OF DOCUMENTS REVIEWED

### **Section 1R01: Adverse Weather Protection**

#### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0POP04-ZO-0002	Natural or Destructive Phenomena Guidelines	48
0PGP03-ZV-0002	Hurricane Plan	7
Security Instruction 1007	Security Severe Weather Plan	7

#### Condition Reports (CRs)

15-15282	14-16562	15-17110
----------	----------	----------

### **Section 1R07: Heat Sink Performance**

#### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PEP07-EW-0001	Performance Test for Essential Cooling Water Heat Exchangers	7
0PGP03-ZA-0506	Tests or Evolutions Requiring Additional Controls	6

#### Work Authorization Number (WAN)

468992	453040	427708	397091	427708
--------	--------	--------	--------	--------

## Section 1R08: In-service Inspection Activities

### Calibration Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
UTCALPA-2015-1	Ultrasonic Calibration – Phased Array UTI-PDI-PIPE-MPA-1, Pipe to Elbow 12-RC-2312-BB1, 102910 weld 6, weld 7, 102950 weld 10	April 13, 2015

### Condition Reports (CRs)

13-13398	14-2616	14-9660	14-14231	15-786
13-13399	14-2618	14-10401	14-14324	15-801
13-13415	14-6913	14-10404	14-15135	15-802
13-13417	14-6914	14-10407	14-19779	15-4314
13-13418	14-6916	14-10408	14-26425	15-4316
13-15566	14-6917	14-10583	14-26427	15-7840
13-15615	14-6918	14-10592	14-26428	15-8668
13-15769	14-6920	14-10953	15-687	15-9187
14-1220	14-8746	14-13252	15-693	15-9941

### Condition Reports (CRs) Written Due To NRC Inspection Activities

15-7840	15-8877	15-9187	15-9555	15-9941
15-8207	15-8668	15-9433	15-9557	15-15135

### Design Change Packages

<u>Number</u>	<u>Title</u>	<u>Revision</u>
DCP # 11-3756-98	Unit 2 Check Valve RH0032A Replacement	0
DCP # 11-8631-6	Replace Unit 2 Reactor Head Vent Isolation Valves with Upgraded Bolted bonnet Design	0

### Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
4C369PRH459 Sht. 3	Residual Heat Removal "RH"	11
10110D63	Swing Check Valve Mod 08000CS880000D0, 8-1525 ASME Cl. 1, GPO Assy	1

## Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
5S142F00024 Sht. 2	Piping & Instrumentation Diagram Auxiliary Feedwater	3
5G362PMS0646 Sht. A02	Main Steam "MS"	2
108513-01	Figure 5600 Series Welbond Stop Valve Straightway Pattern, Fixed Backseat Design Tee Handle Actuation for ASME Boiler & Pressure Vessel Code Section III, Nuclear Application	B

## Nondestructive Examination Reports

<u>Number</u>	<u>Title</u>	<u>Date</u>
PT-2015-028	Reactor Vessel Head Vent Isolation Valve. HV3657A to 10B Pipe FW0014 Line: RC 2048. Welder Symbol J76	April 7, 2015
PT-2015-029	Reactor Vessel Head Vent Isolation Valve. 13B Pipe to Valve HV3657B, FW0005 Line: RC 2049. Welder Symbol J76	April 7, 2015
PT-2015-030	Reactor Vessel Head Vent Isolation Valve. 16B Pipe to Valve HV3658A, FW0027, 10B Pipe to Valve HC3658A, FW0015. Welder Symbol J76	April 7, 2015
PT-2015-031	Reactor Vessel Head Vent Isolation Valve. 14B Pipe to Valve HV3658B, FW0001, 13B Pipe to Valve HC3658B, FW0006. Welder Symbol J76	April 7, 2015
PT-2015-042	Reactor Vessel Head Vent Isolation Valve. System/Line No: RC 2049 FW0004	April 10, 2015
PT-2015-043	Reactor Vessel Head Vent Isolation Valve. System/Line No: RC 2048 FW0013	April 10, 2015
PT-2015-050	Reactor Vessel Head Vent Isolation Valve. System/Line No: RC 2048, FW0011 8B Pipe to 32B Tee	April 12, 2015
PT-2015-051	Reactor Vessel Head Vent Isolation Valve. FW0045 16B Pipe to 58CPLG	April 12, 2015
PT-2015-052	Reactor Vessel Head Vent Isolation Valve. System/Line No: RC 2051, FW0052 14B Pipe to 59 ELL	April 12, 2015
VTIWE-2015-007	Containment Liner (180-270 degrees) >83 feet CC-LINER-GV-F	April 9, 2015
VTIWE-2015-091	Personnel Airlock Visual Examination/ M-90-DH1-BLT-OE-IL	April 9, 2015
VTIWE-2015-092	Personnel Airlock Visual Examination/ M-90-DH-BLT-OE-IL	April 9, 2015

### Nondestructive Examination Reports

<u>Number</u>	<u>Title</u>	<u>Date</u>
VTIWE-2015-093	Personnel Airlock Visual Examination/ M-90-DH-BLT-RE	April 9, 2015
VTIWE-2015-094	Personnel Airlock Visual Examination/ M-90-EAC-BLT	April 9, 2015
VTIWE-2015-095	Personnel Airlock Visual Examination/ M-90-EP-BLT-OE	April 9, 2015
VTIWE-2015-096	Personnel Airlock Visual Examination/ M-90-EP-BLT-RE	April 9, 2015
VTIWE-2015-098	Personnel Airlock Visual Examination/ M-90-LP1-BLT-OE-IL	April 9, 2015
VTIWE-2015-099	Personnel Airlock Visual Examination/ M-90-LP-BLT-RE	April 9, 2015
VTIWE-2015-100	Personnel Airlock Visual Examination/ M-90-LP1-BLT-RE	April 9, 2015
VTIWE-2015-101	Personnel Airlock Visual Examination/ M-90-VP-BLT-OE	April 9, 2015
VTIWE-2015-102	Personnel Airlock Visual Examination/ M-90-VP-BLT-RE	April 9, 2015
VTIWE-2015-103	Personnel Airlock Visual Examination/ M-90-EP-BLT-RE-IL	April 9, 2015
VTIWE-2015-104	Personnel Airlock Visual Examination/ M-90-HW-BLT-OE	April 9, 2015
VTIWE-2015-105	Personnel Airlock Visual Examination/ M-90-HW-BLT-RE-IL	April 9, 2015
VTIWE-2015-106	Personnel Airlock Visual Examination/ M-90-HW-SHFT-BLT-OE-IL	April 9, 2015
VTIWE-2015-107	Personnel Airlock Visual Examination/ M-90-INTLK-BLT-RE	April 9, 2015
VTIWE-2015-108	Personnel Airlock Visual Examination/ M-90-INTLK-BLT-RE	April 9, 2015

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
OPEP10-ZA-0001	Non-Destructive Examination Written Practice	10
OPEP10-ZA-0002	Inservice Inspection Ultrasonic Non-Destructive Examination Written Practice	6
OPEP10-ZA-0004	General Ultrasonic Examination	7
OPEP10-ZA-0009	Recording Data From Direct Visual, Liquid Penetrant, and Magnetic Particle Examinations	2
OPEP10-ZA-0010	Liquid Penetrant Examination (Color Contrast Solvent Removable)	5
OPEP10-ZA-0017	Magnetic Particle Examination (Dry Powder Yoke Method)	5
OPEP10-ZA-0023	Visual Examination of Component Supports for ASME Section XI Inservice Inspection	7
OPEP10-ZA-0024	ASME XI Examination for VT-1 and VT-3	4

## Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
0PEP10-ZA-0025	ASME Section XI Visual Examination for Containment Metal Liner Inspections	5
0PEP10-ZA-0032	Visual VT-2 Examinations	4
0PEP10-ZA-0054	ASME Section XI VE Visual Examinations	2
0PGP03-ZE-0033	RCS Pressure Boundary Inspection for Boric Acid Leaks	13
0PGP03-ZE-0133	Boric Acid Corrosion Control Program	8
0PGP04-ZA-0013	Reactor Coolant System Materials Management Program Quality	4
0PGP04-ZA-0108	Control of Vendor Technical Information	3
0PGP04-ZE-0304	Inservice Inspection Program For Welds and Component Supports	13
0PMP02-ZW-0001	General Welding Requirements	11
0PMP02-ZW-0001A	ASME Repair/Replacement Welding Requirements	1
0PSP11-RC-0015	ASME Section XI Inservice Inspection	17
EPRI-DMW-PA-1	Nondestructive Evaluation: Procedure for Manual Phased Array Ultrasonic Testing (UT) of Dissimilar Metal Welds (DMW)	
EPRI-PA-1	Procedure for Examination of Reactor Piping Using Phased Array Ultrasound	
P1-A-Lh	QW 482 ASME Welding Procedure Specifications (WPS) – Joints (WQ-402), SMAW	8
P1-AT-Lh	QW 482 ASME Welding Procedure Specifications (WPS) – Joints (WQ-402), GTAW and SMAW	6
P1-T	QW 482 ASME Welding Procedure Specifications (WPS) – Joints (WQ-402), GTAW	
P8,P1-T-Ag	QW 482 ASME Welding Procedure Specifications (WPS) – Joints (WQ-402), GTAW	6
P8-T-Ag	QW 482 ASME Welding Procedure Specifications (WPS) – Joints (WQ-402), GTAW	9
PCI-GQP-10.0	General Quality Procedure – Inspection	18
PCI-GQP-12.0	General Quality Procedure – Control of Measuring and Test Equipment	18
PCI-GQP-7.1	General Quality Procedure - Procurement, Receipt, Storage and Issue of ASME III Subsection NCA 3800 Weld Materials	7

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
PCI-GQP-9.6	General Quality Procedure - Visual Examination of Welds	14
PCI-GQP-9.7	General Quality Procedure – Solvent Removable Liquid Penetrant Examination and Acceptance Standards for Welds, Base Materials, and Cladding (50° – 125° F)	16
PCI-GWS-1	Second Edition – General Welding Standard-1, ASME Applications	0
PCI-PQR-063	PCI Energy Services, ASME IX Welding Procedure Qualification Record (PQR)	6
PCI-PQR-600	PCI Energy Services, ASME IX Welding Procedure Qualification Record (PQR), Machine Gas Tungsten Arc Welding (GTAW)	6
PCI-WCP-1	Second Edition – Welding Control Procedure-1, Weld Procedure Preparation and Qualification	0
PCI-WCP-3	Second Edition – Welding control Procedure-3, Weld Material Control	1
PCI-WCP-4	Second Edition – Welding Control Procedure-4, Shielding/Purge Gas Procedure	0
PCI-WCP-5	Second Edition – Welding Control Procedure-5, Weld and Base Metal Repair	0
PCI-WCP-8	Second Edition – Welding Control Procedure-8, Preheating and Post Weld Heat Treatment	0
PCI-WPS-8 MN-GTAW	PCI Energy Services, ASME IX Welding Procedure Specifications	3
PDI-UT-1	Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds	E
PQR-003	Houston Power and Light, Procedure Qualifications Record, P1-T, GTWA, manual	0
PQR-006	Houston Power and Light, Procedure Qualifications Record, P8, P1-AT-Ag, GTWA/SMAW, manual	0
PQR-016	Houston Power and Light, Procedure Qualifications Record, P8, P1-T-Ag, GTWA, manual	0
PQR-035	Houston Power and Light, Procedure Qualifications Record, P8-T-Ag, GTWA, manual	2
PQR-037	Houston Power and Light, Procedure Qualifications Record, P8-T-Ag, P8-A, and P8-AT-Ag, GTWA, manual	September 5, 1989

## Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
PQR-040	Houston Power and Light, Procedure Qualifications Record, P1-A/P1-A-Lh, P1-AT-Lh, SMAW, manual	November 17, 1989
PQR-046	Houston Power and Light, Procedure Qualifications Record, P8-A-Ag, P8-AT-Ag, GTAW, manual	January 24, 1990
PQR-087A	Houston Power and Light, Procedure Qualifications Record, P1-AT-Lh(CVN), GTAW, SMAW, manual	October 28, 1991
PQR-087B	Houston Power and Light, Procedure Qualifications Record, P1-AT-Lh(CVN), GTAW, SMAW, manual	October 28, 1991
PQR-126	Houston Power and Light, Procedure Qualifications Record, P1-T (CVN), GTAW, manual	March 16, 1995
PQR-127	Houston Power and Light, Procedure Qualifications Record, P1-T (CVN), GTAW, manual	March 16, 1995
PQR-197	STPNOC, Procedure Qualifications Record, P8-T-Ag, GTAW, manual	April 10, 2003
PQR-199	STPNOC, Procedure Qualifications Record, P1-A-Lh, SMAW, manual	October 14, 2003
PQR-205	STPNOC, Procedure Qualifications Record, P1-A-Lh, SMAW, manual	January 3, 2005
STP NDE DM-001	Dissimilar Metal Weld Site Specific Training	0
UTI-065	ULTRASONIC TECHNICAL INSTRUCTION, Ultrasonic Examination of Small-Diameter Piping Butt Welds and Components for Thermal Fatigue Damage	0
UTI-070	ULTRASONIC TECHNICAL INSTRUCTION, Conducting Ultrasonic Examinations of Dissimilar Metal Welds	0

## Relief Requests

<u>Number</u>	<u>Title</u>	<u>Date</u>
RR-ENG-3-03	South Texas Project, Units 1 and 2 -Request For Relief RR-ENG-3-03 From ASME Code Requirements For Pump Casing Inservice Inspection Examination (TAC Nos. ME 4762 and ME 4763)	April 7, 2011
RR-ENG-3-04	South Texas Project, Units 1 and 2 -Request for Relief RR-ENG-3-04 To Apply Alternative To The American Society Of Mechanical Engineers Boiler And Pressure Vessel Code Section XI Requirements For Examination Of Class 1 and Class 2 Piping Welds (TAC Nos. ME7055 and ME7056)	September 9, 2012
STP 8056	Station Self-Assessment Program, Formal Self-Assessment Report, Condition Report 13-2564	September 25, 2014

Work Orders

525202                      537163                      96000684

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Reactor Coolant System Materials Management Program Simple Self-Assessment, Condition Report #: 09-11420	August 6, 2009
OPGP03-ZX-0003	Station Self-Assessment Program, Formal Self-Assessment Report, Condition Report #: 12-7416	May 3, 2012
ASME Section III – Division 1	ASME Boiler and Pressure Vessel Code, Section III – Division 1, Rules for Construction of Nuclear Power Plant Components, Subsection ND, Class 3 Components	July 1, 1974
ASME Section III – Division 1	ASME Boiler and Pressure Vessel Code, Section III – Division 1, Rules for Construction of Nuclear Power Plant Components, Subsection NC, Class 2 Components	July 1, 1974
ASME Section III – Division 1	ASME Boiler and Pressure Vessel Code, Section III – Division 1, Rules for Construction of Nuclear Power Plant Components, Subsection NB, Class 1 Components	July 1, 1974
ASME Section IX	2013 ASME Boiler & Pressure Vessel Code, Section IX, Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators	July 1, 2013
Case N-729-1	Cases Of ASME Boiler And Pressure Vessel Code, Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds Section XI, Division 1	March 28, 2006
NCR No. 907681-01	STP Unit 2 RH0032A Valve Replacement Radiograph of failed weld joint	April 15, 2015
PM SEM-2-3000144	Periodic Inspect / Clean / Adjust Preventative Maintenance (PICA PM)	March 25, 2014



**Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance**

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
LOR-GL-0001	LOR Training Program Guidelines	26

Licensed Operator Requalification Exam

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2014 LOR 145 Exam 12	2014 Annual Performance Test	0

**Section 1R12: Maintenance Effectiveness**

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SEG-0009	Maintenance Rule Basis Document Guideline	2

Condition Reports (CRs)

15-10558            15-4990            15-6493

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OPGP03-ZA-0091	Configuration Risk Management Program	13
OPGP03-ZG-RMTS	Risk-Managed Technical Specifications Program	2
OPGP03-ZE-0001	PRA Analyses/Assessments	3
PRA 15-003	PORV 2B PRA Analyses	2
	RA Sequence 2487	
	RA Sequence 2502	

Condition Reports (CRs)

15-11438

## **Section 1R15: Operability Determinations and Functionality Assessments**

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0POP07-AE-0002	ESF Load Tap Changer Functional Test	5
0POP04-AE-0005	Offsite Power System Degraded Voltage	10
0PSP02-RC-0410	Delta T and T Average ACOT	56

### Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
00000E0AAAA	Main One Line Diagram Unit No. 1 & 2	27
00009E0PK04#2	ESF Transfer & 4.16KV Bus E2A, E2B & E2C Protection & Metering Circuit	14

### Condition Reports (CRs)

15-14436            15-11647            15-541            15-9585

## **Section 1R18: Plant Modifications**

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PGP04-ZE-0309	Design Change Package	30
DCP 09-5680-11	Replacement of AKR 2D-50 Breakers	

## **Section 1R19: Post-Maintenance Testing**

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PSP03-MS-0001	Main Steam Valve Operability Test	43
0PGP03-ZM-0025A	Post-Maintenance Testing Implementation	7
0PMP04-SG-0006	Steam Generator PORV maintenance	16
0POP07-FR-0006	FLEX Diesel Generator Performance Test	0

### Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
6S139F20009#2	Piping and Instrumentation Diagram Feedwater	51

Design Change Packages (DCP)

15-12007-14

Work Authorization Numbers (WAN)

537659                      473134                      492912

**Section 1R20: Refueling and Other Outage Activities**

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OPGP03-ZA-0101	Shutdown Risk Assessment	28
OPOP08-FH-0001	Refueling Machine Operating Instruction	44
OPOP08-FH-0002	Fuel Handling Machine	42
OPOP08-FH-0003	Fuel Transfer System	35
OPOP08-FH-0009	Core Refueling	42
OPOP03-ZG-0010	Refueling Operations	67
OPGP03-ZA-0014	Foreign Material Exclusion Program	29
OPOP03-RC-0100	RCS Vacuum Fill	40
OPOP03-ZG-0009	Mid-Loop Operation	60
OPSP03-XC-0001	Refueling Containment Penetration Status	26
OPOP03-ZG-0007	Plant Cooldown	74
OPGP03-ZO-0042	Reactivity Management Program	16
OPGP03-ZO-0052	Containment Management	9
OPMP04-ZG-0012	Equipment Hatch Removal and Installation	26

**Section 1R22: Surveillance Testing**

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OPSP03-CV-0019	Centrifugal Charging Pump 1A(2A) Quarterly Pump Test (Modes 1-4)	0
OPGP03-ZE-0015	Inservice Testing Program	
OPGP03-ZE-0022	Inservice Testing Program for Pumps	
OPGP03-ZE-0004	Plant Surveillance Program	

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PSP11-SI-0013	LLRT: M-18 HHSI Pump 1A / 2A Discharge	15
0PMP05-CH-0003	York Chiller Inspection & Maintenance 300 Tons	9
0POP07-AE-0002	ESF Load Tap Changer Functional Test	5
0PSP03-RS-0001	Monthly Control Rod Operability Test	36
0PSP11-HE-0002	Control Room Emergency Air Cleanup System Function Test	41
0PSP03-DG-0017	Standby Diesel 12(22) Twenty-Four Hour Load Test	45

### Condition Reports (CRs)

14-12076	15-13170	15-4990	15-14436	15-12804
15-13325				

## **Section 2RS1: Radiological Hazard Assessment and Exposure Controls**

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PGP03-ZR-0048	Personnel Dosimetry Program	17
0PGP03-ZR-0050	Radiation Protection Program	13
0PGP03-ZR-0051	Radiological Access Controls/Standards	33
0PRP03-ZR--0004	Inventory and Leak Testing of Radioactive Sources	9
0PRP04-ZR-0004	Release of Materials from Radiologically Controlled Areas	23
0PRP04-ZR-0011	Radiation Protection Key Control	31
0PRP04-ZR-0013	Radiological Survey Program	32
0PRP04-ZR-0015	Radiological Posting and Warning Devices	32
0PRP07-ZR-0033	Radiological Briefings	6

### Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
13-15723	Self-Assessment - Contamination Control June 2012 through August 2014	September 30, 2014
14-2503	Self-Assessment – Radiation Protection Radiological Survey Program	September 18, 2014
2 <sup>nd</sup> Cycle 2014	Triannual Quality Performance Assessment Report	September 11, 2014

### Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
3 <sup>rd</sup> Cycle 2014	Triannual Quality Performance Assessment Report	January 19, 2015

### Condition Reports (CRs)

14-7052	14-23263	15-2815	15-3627	15-3699
15-4444	15-9496			

### Radiation Work Permits

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2014-1-0084	1RE18-Maintenance and Support Work – Room 003 (LHRA)	0
2014-1-0111	1RE18-Perform Maintenance and Inspections in RCB/FHB Fuel Transfer Canal (LHRA)	1
2015-2-0081	2RE17- Refuel-Inspect/Clean/Measure Upper/Lower O-Ring Grooves (LHRA)	2
2015-2-0115	2RE17-Maintenance on 1R162XRH0032A	2
2015-2-0118	2RE17-Replace RCS Loop Drain Valves (HRA)	0
2015-2-0120	2RE17-Radiography Activities Inside the RCA (HRA)	0
2015-2-0144	2RE17-Control Rod Drive Mechanism Inspections (HRA)	0

### Radiation Surveys

<u>Number</u>	<u>Title</u>	<u>Date</u>
74181	Transfer Canal	April 9, 2014
74189	Transfer Canal	April 9, 2014
77710	RCDT Pump Rooms A and B	November 23, 2014
77801	RCDT Pump Rooms A and B	December 2, 2014
78031	-11' Detailed Walkway (RCB)	December 17, 2014
78988	Radwaste Truckbay Walkway	March 7, 2015
79064	Radwaste Truckbay Walkway	March 13, 2015
79260	+60' Detailed Walkway (MAB)	March 26, 2015
79600	+60' Detailed Walkway (MAB)	April 2, 2015
79710	Reactor Cavity	April 5, 2015

### Radioactive Material Shipment Documentation

<u>Number</u>	<u>Title</u>	<u>Date</u>
STP-2-15-023	RCP 2B Motor (UN2910)	April 14, 2015

### Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Designated High Radiation Area List - Unit 2	
	Radioactive Source Surveillance (Inventory and Leak Test Data)	July 29, 2014
	Radioactive Source Surveillance (Inventory and Leak Test Data)	January 28, 2015
33970359	1- SFP Item Inventory Form	July 17, 2014
33970361	2-SFP Item Inventory Form	July 28, 2014
SFP2-15-001	SFP Item Transfer Form Cover Sheet	March 2, 2015
WAN 492912	Radiography Activities Checklist	April 15, 2015

### **Section 2RS3: In-plant Airborne Radioactivity Control and Mitigation**

#### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PGP03-ZR-0054	Respiratory Protection Program	16
0PGP03-ZT-0133	General Employee Training Program	18
0PRP05-ZR-0030	Portable Air Monitoring Instruments (AMS-4)	19
0PRP06-ZR-0002	Respiratory Protection Equipment Issue and Return	22
0PRP06-ZR-0004	Cleaning and Sanitizing of Respiratory Protection Equipment	8
0PRP06-ZR-0005	Maintenance, Inspection, and Storage of Respiratory Protection Equipment	15
0PRP06-ZR-0007	Use of Supplied Air Respiratory Equipment	9
0PRP06-ZR-0008	Air Quality Evaluation for Compressors or Pressurized Gas Cylinders	4
0PRP06-ZR-0013	Respirator Fit Testing	7
0PRP06-ZR-0016	Charging Breathing Air Cylinders	7
0PRP07-ZR-0010	Radiation Work Permits/Radiological Work ALARA Reviews	36

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PRP08-ZR-0014	Maintenance and Control of HEPA Vacuum Cleaners and Portable Ventilation Units	19

### Condition Reports (CRs)

12-31302	13-14498	13-14925	13-14927	14-6471
14-7030	14-9696	14-10755	14-12737	14-13001
14-24182	14-26630	15-1253	15-4942	

### Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
	2013 – 2015 Air Quality Evaluation - Grade “E” Test Results: Cylinder Refill and Instrument Air Compressors	
	2013 - 2014 SCBA Flow Test Results	
	2013 – 2014 SCBA Kit Inspections	
	2015 User Respirator Fit Testing Results	
	2015 SCBA Qualification records: Operations, Emergency Response, Fire Brigade	
	EPRI Alpha Level Results	November 21, 2012
12-31302	Radiation Protection Activities Self-Assessment	June 24, 2013
14-02 (RC)	Radiological Controls Quality Audit Report	March 31, 2014

### **Section 40A1: Performance Indicator Verification**

#### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AD-0007	Collection of NRC Performance Indicator Data-Reactor Coolant System Specific Activity	3
PI-0002	NRC & INPO Performance Indicator: Initiating Event Cornerstone (by Unit) and Barrier Integrity Cornerstone (by Unit) Desktop Guidelines	6
LDG-01	NRC Performance Indicator: Safety System Functional Failures	1

## Section 4OA2: Problem Identification and Resolution

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PGP03-ZP-0014	Safety/Quality Classification and Dedication of Parts	5
0POP02-CH-0005	Essential Chiller Operation	73
0PMP05-CH-0003	York Chiller Inspection & Maintenance 300 Tons	9

### Condition Reports (CRs)

15-4990	15-6493	15-1178	15-10544	15-10343
15-14277	15-10405	15-10688	15-10408	15-8787

### Work Authorization Number (WAN)

479589	510888	516167
--------	--------	--------

### Technical Evaluation

501-38270 (Rev 1 and 2)

## Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

### Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PGP03-ZE-0004	Plant Surveillance Program	26
0POP01-ZQ-0022	Plant Shift Routines	74

### Condition Reports (CRs)

15-5477	14-26405
---------	----------

### Miscellaneous

<u>Title</u>	<u>Revision</u>
Engine Systems Inc., Governor Testing Analysis Trip Report	0



**The following items are requested for the  
Occupational Radiation Safety Inspection  
at South Texas Project  
April 13 thru 17, 2015  
Integrated Report 2015001**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before March 23, 2015.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1- A," applicable organization charts in file/folder "1- B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

If more than one inspection procedure is to be conducted and the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact John O'Donnell at (817) 200-1441 or [john.odonnell@nrc.gov](mailto:john.odonnell@nrc.gov).

**PAPERWORK REDUCTION ACT STATEMENT**

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

**1. Radiological Hazard Assessment and Exposure Controls (71124.01) and Performance Indicator Verification (71151)**

Date of Last Inspection: March 31, 2014

- A. List of contacts and telephone numbers for the Radiation Protection Organization Staff and Technicians
- B. Applicable organization charts
- C. Audits, self assessments, and LERs written since date of last inspection, related to this inspection area
- D. Procedure indexes for the radiation protection procedures
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
  - 1. Radiation Protection Program Description
  - 2. Radiation Protection Conduct of Operations
  - 3. Personnel Dosimetry Program
  - 4. Posting of Radiological Areas
  - 5. High Radiation Area Controls
  - 6. RCA Access Controls and Radworker Instructions
  - 7. Conduct of Radiological Surveys
  - 8. Radioactive Source Inventory and Control
  - 9. Declared Pregnant Worker Program
- F. List of corrective action documents (including corporate and sub-tiered systems) since date of last inspection
  - a. Initiated by the radiation protection organization
  - b. Assigned to the radiation protection organization

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.

If not covered above, a summary of corrective action documents since date of last inspection involving unmonitored releases, unplanned releases, or releases in which any dose limit or administrative dose limit was exceeded (for Public Radiation Safety Performance Indicator verification in accordance with IP 71151)

- G. List of radiologically significant work activities scheduled to be conducted during the inspection period (If the inspection is scheduled during an outage, please also include a list of work activities greater than 1 rem, scheduled during the outage with the dose estimate for the work activity)
- H. List of active radiation work permits
- I. Radioactive source inventory list
  - a. All radioactive sources that are required to be leak tested

- b. All radioactive sources that meet the 10 CFR Part 20, Appendix E, Category 2 and above threshold. Please indicate the radioisotope, initial and current activity (w/assay date), and storage location for each applicable source
- J. The last two leak test results for the radioactive sources inventoried and required to be leak tested. If applicable, specifically provide a list of all radioactive source(s) that have failed its leak test within the last two years
- K. A current listing of any non-fuel items stored within your pools, and if available, their appropriate dose rates (Contact / @ 30cm)
- L. Computer printout of radiological controlled area entries greater than 100 millirems since the previous inspection to the current inspection entrance date. The printout should include the date of entry, some form of worker identification, the radiation work permit used by the worker, dose accrued by the worker, and the electronic dosimeter dose alarm setpoint used during the entry (for Occupational Radiation Safety Performance Indicator verification in accordance with IP 71151).

**3. In-Plant Airborne Radioactivity Control and Mitigation (71124.03)**

Date of Last Inspection: December 2, 2013

- A. List of contacts and telephone numbers for the following areas:
  - 1. Respiratory Protection Program
  - 2. Self contained breathing apparatus
- B. Applicable organization charts
- C. Copies of audits, self-assessments, vendor or NUPIC audits for contractor support (SCBA), and LERs, written since date of last inspection related to:
  - 1. Installed air filtration systems
  - 2. Self contained breathing apparatuses
- D. Procedure index for:
  - 1. Use and operation of continuous air monitors
  - 2. Use and operation of temporary air filtration units
  - 3. Respiratory protection
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
  - 1. Respiratory protection program
  - 2. Use of self contained breathing apparatuses
  - 3. Air quality testing for SCBAs
  - 4. Use of installed plant systems, such as containment purge, spent fuel pool ventilation, and auxiliary building ventilation
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection, related to the Airborne Monitoring program including:
  - 1. Continuous air monitors

1. Self contained breathing apparatuses
2. Respiratory protection program

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.

- G. List of SCBA qualified personnel - reactor operators and emergency response personnel
- H. Inspection records for self contained breathing apparatuses (SCBAs) staged in the plant for use since date of last inspection.
- I. SCBA training and qualification records for control room operators, shift supervisors, STAs, and OSC personnel for the last year.  
  
A selection of personnel may be asked to demonstrate proficiency in donning, doffing, and performance of functionality check for respiratory devices
- J. List of respirators (available for use) by type (APR, SCBA, PAPR, etc.), manufacturer, and model.

Request for Information for Inservice Inspection  
South Texas Project  
April 6, 2015, through April 17, 2015  
NRC Inspection Report 05000499/2015002

Please provide the requested information. Thank you for your support.

**NOTE:** In an effort to keep the requested information organized, please submit the information using the same request designation. For example, the names and phone numbers for the program leads should be in a file/folder titled A.5.b.

If you have any questions or comments, please contact the lead inspector Ron Kopriva at (817) 200-1104 ([Ron.Kopriva@nrc.gov](mailto:Ron.Kopriva@nrc.gov) )

**PAPERWORK REDUCTION ACT STATEMENT**

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

## INSERVICE INSPECTION DOCUMENT REQUEST

Inspection Dates: April 6, 2015, through April 17, 2015  
Inspection Procedures: IP 71111.08 "Inservice Inspection (ISI) Activities"  
Inspectors: Ron Kopriva, Senior Reactor Inspector

### A. **Information Requested for the In-Office Preparation Week**

The following information should be sent to the Region IV office in hard copy or electronic format (ims.certrec.com preferred), in care of Ron Kopriva, by March 16, 2015, to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The inspectors will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week (Section B of this enclosure). We ask that the specific items selected from the lists be available and ready for review on the first day of inspection. Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector(s), and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the inspector as soon as possible.

#### A.1 **ISI/Welding Programs and Schedule Information**

- a) A detailed schedule (including preliminary dates) of:
  - i) Nondestructive examinations planned for Class 1 & 2 systems and containment, performed as part of your ASME Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage.  
  
Provide a status summary of the nondestructive examination inspection activities vs. the required inspection period percentages for this interval by category per ASME Section XI, IWX-2400. Do not provide separately if other documentation requested contains this information.
  - ii) Reactor pressure vessel head examinations planned for the upcoming outage.
  - iii) Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (If applicable).
  - iv) Examinations planned as part of your boric acid corrosion control program (Mode 3 walkdowns, bolted connection walkdowns, etc.).

- v) Welding activities that are scheduled to be completed during the upcoming outage (ASME Class 1, 2, or 3 structures, systems, or components).
- b) A copy of ASME Section XI Code Relief Requests and associated NRC safety evaluations applicable to the examinations identified above.
- c) A list of nondestructive examination reports (ultrasonic, radiography, magnetic particle, dye penetrant, Visual VT-1, VT-2, and VT-3), which have identified relevant conditions on Code Class 1 & 2 systems since the beginning of the last refueling outage. This should include the previous Section XI pressure test(s) conducted during start up and any evaluations associated with the results of the pressure tests. Also, include in the list the nondestructive examination reports with relevant conditions in the reactor pressure vessel head penetration nozzles that have been accepted for continued service. The list of nondestructive examination reports should include a brief description of the structures, systems, or components where the relevant condition was identified.
- d) A list with a brief description (e.g., system, material, pipe size, weld number, and nondestructive examinations performed) of the welds in Code Class 1 and 2 systems which have been fabricated due to component repair/replacement activities since the beginning of the last refueling outage, or are planned to be fabricated this refueling outage.
- e) If reactor vessel weld examinations required by the ASME Code are scheduled to occur during the upcoming outage, provide a detailed description of the welds to be examined and the extent of the planned examination. Please also provide reference numbers for applicable procedures that will be used to conduct these examinations.
- f) Copy of any 10 CFR Part 21 reports applicable to your structures, systems, or components within the scope of Section XI of the ASME Code that have been identified since the beginning of the last refueling outage.
- g) A list of any temporary noncode repairs in service (e.g., pinhole leaks).
- h) Copies of the most recent self-assessments for the inservice inspection, welding, and Alloy 600 programs.
- i) Provide a copy of the nondestructive examination procedures that will be used to perform the examinations (including calibration and flaw characterization/sizing procedures). For ultrasonic examination procedures qualified in accordance with ASME Section XI, Appendix VIII, provide documentation supporting the procedure qualification (e.g., the EPRI performance demonstration qualification summary sheets).
- j) Provide a copy of the various Welding processes that are scheduled to be used during the outage.

A.2 **Reactor Pressure Vessel Head (RPVH)**

- a) Provide the detailed scope of the planned nondestructive examinations of the reactor vessel head which identifies the types of nondestructive examination methods to be used on each specific part of the vessel head to fulfill commitments made in response to NRC Bulletin 2002-02 and NRC Order EA-03-009. Also, include examination scope expansion criteria and planned expansion sample sizes if relevant conditions are identified. (If applicable)
- b) A list of the standards and/or requirements that will be used to evaluate indications identified during nondestructive examination of the reactor vessel head (e.g., the specific industry or procedural standards which will be used to evaluate potential leakage and/or flaw indications).

A.3 **Boric Acid Corrosion Control Program**

- a) Copy of the procedures that govern the scope, equipment and implementation of the inspections required to identify boric acid leakage and the procedures for boric acid leakage/corrosion evaluation.
- b) Please provide a list of leaks (including Code class of the components) that have been identified since the last refueling outage and associated corrective action documentation. If during the last cycle, the unit was shutdown, please provide documentation of containment walkdown inspections performed as part of the boric acid corrosion control program.
- c) Please provide a copy of the most recent self-assessment performed for the boric acid corrosion control program.

A.4 **Steam Generator Tube Inspections**

- a) A detailed schedule of:
  - i) Steam generator tube inspection, data analyses, and repair activities for the upcoming outage (If occurring).
  - ii) Steam generator secondary side inspection activities for the upcoming outage. (If occurring).
- b) Please provide a copy of your steam generator inservice inspection program and plan. Please include a copy of the operational assessment from last outage and a copy of the following documents as they become available:
  - i) Degradation assessment
  - ii) Condition monitoring assessment



- c) If you are planning on modifying your Technical Specifications such that they are consistent with Technical Specification Task Force Traveler TSTF-449, "Steam Generator Tube Integrity," please provide copies of your correspondence with the NRC regarding deviations from the standard technical specifications.
- d) Copy of steam generator history documentation given to vendors performing eddy current testing of the steam generators during the upcoming outage.
- e) Copy of steam generator eddy current data analyst guidelines and site validated eddy current technique specification sheets. Additionally, please provide a copy of EPRI Appendix H, "Examination Technique Specification Sheets," qualification records.
- f) Identify and quantify any steam generator tube leakage experienced during the previous operating cycle. Also provide documentation identifying which steam generator was leaking and corrective actions completed or planned for this condition (If applicable).
- g) Provide past history of the condition and issues pertaining to the secondary side of the steam generators (including items such as loose parts, fouling, top of tube sheet condition, crud removal amounts, etc.)
- h) Provide copies of your most recent self assessments of the steam generator monitoring, loose parts monitoring, and secondary side water chemistry control programs.
- i) Indicate where the primary, secondary, and resolution analyses are scheduled to take place.
- j) Provide a summary of the scope of the steam generator tube examinations, including examination methods such as Bobbin, Rotating Pancake, or Plus Point, and the percentage of tubes to be examined. Do not provide these documents separately if already included in other information requested.

A.5 **Additional Information Related to all Inservice Inspection Activities**

- a) A list with a brief description of inservice inspection, boric acid corrosion control program, and steam generator tube inspection related issues (e.g., condition reports) entered into your corrective action program since the beginning of the last refueling outage (for Unit 2). For example, a list based upon data base searches using key words related to piping or steam generator tube degradation such as: inservice inspection, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping/steam generator tube examinations.
- b) Please provide names and phone numbers for the following program leads:  
Inservice inspection (examination, planning)

Containment exams  
Reactor pressure vessel head exams  
Snubbers and supports  
Repair and replacement program  
Licensing  
Site welding engineer  
Boric acid corrosion control program

Steam generator inspection activities (site lead and vendor contact)

**B. Information to be Provided Onsite to the Inspector(s) at the Entrance Meeting (April 6, 2015):**

**B.1 Inservice Inspection / Welding Programs and Schedule Information**

- a) Updated schedules for inservice inspection/nondestructive examination activities, including steam generator tube inspections, planned welding activities, and schedule showing contingency repair plans, if available.
- b) For ASME Code Class 1 and 2 welds selected by the inspector from the lists provided from section A of this enclosure, please provide copies of the following documentation for each subject weld:
  - i) Weld data sheet (traveler)
  - ii) Weld configuration and system location
  - iii) Applicable Code Edition and Addenda for weldment
  - iv) Applicable Code Edition and Addenda for welding procedures
  - v) Applicable weld procedures used to fabricate the welds
  - vi) Copies of procedure qualification records supporting the weld procedures from B.1.b.v
  - vii) Copies of mechanical test reports identified in the procedure qualification records above
  - viii) Copies of the nonconformance reports for the selected welds (If applicable)
  - ix) Radiographs of the selected welds and access to equipment to allow viewing radiographs (If radiographic testing was performed)
  - x) Copies of the preservice examination records for the selected welds
  - xi) Copies of welder performance qualifications records applicable to the selected welds, including documentation that welder maintained proficiency in the applicable welding processes specified in the weld procedures (at least 6 months prior to the date of subject work)
  - xii) Copies of nondestructive examination personnel qualifications (Visual inspection, penetrant testing, ultrasonic testing, radiographic testing), as applicable
- c) For the inservice inspection related corrective action issues selected by the inspectors from section A of this enclosure, provide a copy of the corrective actions and supporting documentation.

- d) For the nondestructive examination reports with relevant conditions on Code Class 1 and 2 systems selected by the inspectors from Section A above, provide a copy of the examination records, examiner qualification records, and associated corrective action documents.
- e) A copy of (or ready access to) most current revision of the inservice inspection program manual and plan for the current Interval.
- f) For the nondestructive examinations selected by the inspectors from section A of this enclosure, provide qualification documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and nondestructive examination personnel qualification records.

## B.2 **Reactor Pressure Vessel Head**

- a) Provide the nondestructive personnel qualification records for the examiners who will perform examinations of the reactor pressure vessel head.
- b) Provide drawings showing the following: (If a visual examination is planned for the upcoming refueling outage)
  - i) Reactor pressure vessel head and control rod drive mechanism nozzle configurations
  - ii) Reactor pressure vessel head insulation configuration

Note: The drawings listed above should include fabrication drawings for the nozzle attachment welds as applicable.
- c) Copy of nondestructive examination reports from the last reactor pressure vessel head examination.
- d) Copy of evaluation or calculation demonstrating that the scope of the visual examination of the upper head will meet the 95 percent minimum coverage required by NRC Order EA-03-009 (If a visual examination is planned for the upcoming refueling outage).
- e) Provide a copy of the procedures that will be used to identify the source of any boric acid deposits identified on the reactor pressure vessel head. If no explicit procedures exist which govern this activity, provide a description of the process to be followed including personnel responsibilities and expectations.
- f) Provide a copy of the updated calculation of effective degradation years for the reactor pressure vessel head susceptibility ranking.
- g) Provide copy of the vendor qualification report(s) that demonstrates the detection capability of the nondestructive examination equipment used for the reactor pressure vessel head examinations. Also, identify any changes in equipment configurations used for the reactor pressure vessel head examinations which differ from that used in the vendor qualification report(s).

**B.3 Boric Acid Corrosion Control Program**

- a) Please provide boric acid walkdown inspection results, an updated list of boric acid leaks identified so far this outage, associated corrective action documentation, and overall status of planned boric acid inspections.
- b) Please provide any engineering evaluations completed for boric acid leaks identified since the end of the last refueling outage. Please include a status of corrective actions to repair and/or clean these boric acid leaks. Please identify specifically which known leaks, if any, have remained in service or will remain in service as active leaks.

**B.4 Steam Generator Tube Inspections**

- a) Copies of the Examination Technique Specification Sheets and associated justification for any revisions.
- b) Copy of the guidance to be followed if a loose part or foreign material is identified in the steam generators.
- c) Please provide a copy of the eddy current testing procedures used to perform the steam generator tube inspections (specifically calibration and flaw characterization/sizing procedures, etc.). Also include documentation for the specific equipment to be used.
- d) Please provide copies of your responses to NRC and industry operating experience communications such as Generic Letters, Information Notices, etc. (as applicable to steam generator tube inspections) Do not provide these documents separately if already included in other information requested such as the degradation assessment.
- e) List of corrective action documents generated by the vendor and/or site with respect to steam generator inspection activities.

**B.5 Codes and Standards**

- a) Ready access to (i.e., copies provided to the inspector(s) for use during the inspection at the onsite inspection location, or room number and location where available):
  - i) Applicable Editions of the ASME Code (Sections V, IX, and XI) for the inservice inspection program and the repair/replacement program.
  - ii) EPRI and industry standards referenced in the procedures used to perform the steam generator tube eddy current examination.

Inspector Contact Information:

Ron Kopriva  
Senior Reactor Inspector  
817-200-1104  
[Ron.Kopriva@nrc.gov](mailto:Ron.Kopriva@nrc.gov)

Mailing Address:  
US NRC Region IV  
Attn: Ron Kopriva  
1600 E. Lamar Blvd  
Arlington, TX 76011